2 Product Specifications

2-1 LW17M24C, LW20M21C Specifications

Item	Description	
	LW17M24C	LW20M21C
LCD Panel	TFT-LCD panel, RGB vertical stripe, normaly white, 17-Inch viewable, 0.264 (H) x 0.264(V)mm pixel pitch	TFT-LCD panel, RGB vertical stripe, normaly white, 20-Inch viewable, 0.2125(H) x 0.6375(V) mm pixel pitch
Scanning Frequency	Horizontal : 30 kHz ~ 80 kHz (Automatic) Vertical : 50 Hz ~ 75 Hz (Automatic)	Horizontal : 28 kHz ~ 33 kHz (Automatic) Vertical : 50 Hz ~ 70 Hz (Automatic)
Display Colors	16.2 Million colors	
Maximum Resolution	Horizontal : 1280 Pixels Vertical : 1024 Pixels	Horizontal : 640 Pixels Vertical : 480 Pixels
Input Video Signal	Analog 0.7 Vp-p ± 5% positive at 75 Ω, internally terminated	
Input Sync Signal	Type : Seperate H/V Level : TTL level	
Active Display Horizontal/Vertical	337.9 mm(H) / 270.3 mm(V)	408 mm(H) / 306 mm(V)
AC power voltage & Frequency	AC 100 ~ 240V, 50 ~ 60 Hz	
Power Consumption	45 W	55 W
Dimensions(W x D x H) Set Package	16.44 x 7.59 x 16.72 Inches (417.5 x 192.9 x 424.6 mm)(State of stand installed) 16.44 x 4.95 x 16.72 Inches (417.5 x 125.7 x 424.6 mm)(State of Wall mount) 21.1 x 7.2 x 20.1 Inches (537 x 183 x 511 mm)	18.86 x 8.85 x 18.07 Inches (479 x 224.8 x 459.1 mm) (State of stand installed) 18.86 x 2.94 x 17.18 Inches (479 x 74.7 x 436.4 mm) (State of stand disassembled) 18.86 x 5.51 x 20.42 Inches (479 x 139.9 x 518.6 mm) (Without Stand of Wall mount) 22.60 x 23.35 x 8.27 Inches (574 x 593 x 210 mm)
Weight Set / Package	4.95 Kg (10.91lbs) / 7.0 Kg (15.43 lbs)	7.35 Kg (16.20 lbs) (State of stand installed) / 10 Kg (22.05 lbs)
Environmental Considerations	Operating Temperature : 50 °F ~ 104 °F (10 °C ~ 40 °C) Operating Humidity : 10 % ~ 80 % Storage Temperature : -4 °F ~ 113 °F (-20 °C ~ 45 °C) Storage Humidity : 5 % ~ 95 %	
TV System	Tunning	Frequency Synthesize
	System	NTSC-M, PAL/ Secam_L(Euro multi)
	Sound	MONO, STEREO, SAP, A2/Nicam
Antena Input	75Ω, Coaxial Cable	
Sound Characteristic	– MAX Internal speaker Output : Right => 2.5W Left => 2.5W	
	– Headphone Out: 10mW max (3.50 Stereo Jack 32) – Output Frequency : RF => 80 Hz ~ 15 kHz at -3dB A/V => 80 Hz ~ 20 kHz at -3dB	

2-2 Pin Assignments

2-2-1 Scart

No	PIN
1	Sound R out
2	Sound R In
3	Sound L out
4	GND
5	GND
6	Sound L In
7	Cb
8	ID
9	GND
10	NC
11	Y
12	NC
13	GND
14	GND
15	Cr
16	BL In
17	GND
18	GND
19	Video Out
20	Video In
21	GND

2-2-3 A/V

RCA Yellow	CVBS
RCA White	Audio L
	GND
RCA Red	Audio R
	GND

2-2-2 S-Video

Pin	Separate
1	GND
2	Y
3	C
4	GND
5	GND

2-2-4 D-SUB

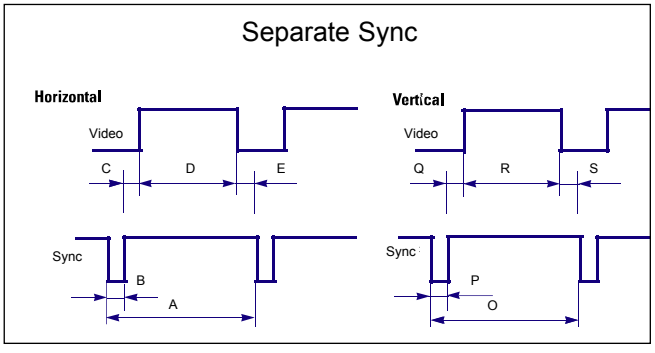
Pin	Separate
1	Red
2	Green
3	Blue
4	GND
5	GND (DDC Return)
6	GND-Red
7	GND-Green
8	GND-Blue
9	No Connection
10	GND-Sync / Self Test
11	GND
12	DDC Data
13	H - Sync
14	V - Sync
15	DDC Clock

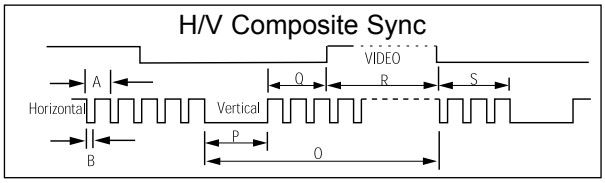
2-3 Timing Chart

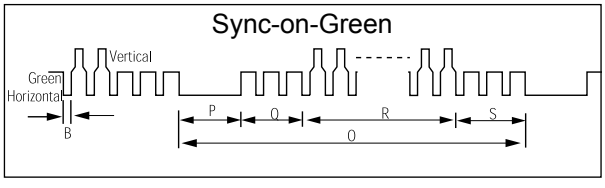
This section of the service manual describes the timing that the computer industry recognizes as standard for computer-generated video signals.

Table 2-1 Timing Chart

Mode / Timing	IBM(LW17M24C/LW20M21C)		VESA(LW17M24C)				
	VGA2/70 Hz 720 x 400	VGA3/60 Hz 640 x 480	640/75 Hz, 60Hz, 72Hz 640 x 480	800/75 Hz, 56Hz, 60Hz, 72Hz 800 x 600	1024/60Hz 1024 x 768	1024/75Hz 1024 x 768	1280/75Hz,50Hz 1280x1024
fH (KHz)	31.469	31.469	37.500	46.875	48.363	60.023	79.976
A µsec	31.777	31.778	26.667	21.333	20.677	16.660	12.504
B µsec	3.813	3.813	2.032	1.616	2.092	1.219	1.067
C µsec	1.589	1.589	3.810	3.232	2.462	2.235	1.837
D µsec	26.058	26.058	20.317	16.162	15.754	13.003	9.481
E µsec	0.318	0.318	0.508	0.323	0.369	0.203	0.119
fV (Hz)	70.087	59.940	75.000	75.000	60.004	75.029	75.025
O msec	14.268	16.683	13.333	13.333	16.666	13.328	13.329
P msec	0.064	0.064	0.080	0.064	0.124	0.050	0.038
Q msec	0.858	0.794	0.427	0.448	0.600	0.466	0.475
R msec	13.155	15.761	12.800	12.800	15.880	12.795	12.804
S msec	0.191	0.064	0.027	0.021	0.062	0.017	0.013
Clock Freq. (MHz)	28.322	25.175	31.500	49.500	75.000	78.750	135.000
Polarity H.Sync	Negative	Negative	Negative	Positive	Negative	Positive	Positive
V.Sync	Positive	Negative	Negative	Positive	Negative	Positive	Positive
Remark	Separate	Separate	Separate	Separate	Separate	Separate	Separate







A : Line time total	B : Horizontal sync width	O : Frame time total	P : Vertical sync width
C : Back porch	D : Active time	Q : Back porch	R : Active time
E : Front porch		S : Front porch	

Memo